

What Is Claimed Is:

1. A storage subsystem, comprising:

a plurality of channel adapters that each control the exchange of data with a host device;

a plurality of storage device groups that each provide a logical storage region;

a plurality of disk adapters that each control the exchange of data with each of the storage device groups;

a cache memory that is used by each of the channel adapters and each of the disk adapters;

a plurality of cache partition regions constituted by logically partitioning the cache memory; and

a control memory that stores management information for managing each of the cache partition regions,

wherein the management information is constituted by partition management information items provided in each of the cache partition regions, and common management information that is applied to all of the cache partition regions.

2. The storage subsystem according to claim 1, wherein the partition management information items and the common management information are established on the basis of the attribute of a cache management unit.

3. The storage subsystem according to claim 1, wherein:  
the management information is constituted by  
submanagement information of a plurality of types; and  
the partition management information items are  
constituted by partitioning, on the basis of the attribute of  
a cache management unit, some of the submanagement information  
items for each of the cache partition regions, the remainder  
of the submanagement information items being used as the common  
management information.

4. The storage subsystem according to claim 1, wherein:  
the management information is constituted comprising  
queues of a plurality of types, and counters that are associated  
with each of the queues; and  
the partition management information items are  
constituted by providing some of the queues and counters in each  
of the cache partition regions on the basis of the attribute  
of a cache management unit, the remainder of the queues and the  
remainder of the counters being used as the common management  
information.

5. The storage subsystem according to claim 4, wherein  
one of the mutually associated queue and counter constitutes

the partition management information, and the other is used as the common management information.

6. The storage subsystem according to claim 4, wherein a queue management table is associated with each queue, and the queue management table associated with a queue that constitutes the partition management information is provided in each of the cache partition regions.

7. The storage subsystem according to claim 1, wherein:  
the management information is constituted comprising:  
a free queue to which a cache management unit in an unused state is connected and a free queue counter associated with the free queue;

a dirty queue to which a cache management unit for storing data in a dirty state prior to reflection in the storage device group is connected and a dirty queue counter associated with the dirty queue;

a clean queue to which a cache management unit for storing data in a clean state that has been reflected in the storage device group is connected and a clean queue counter associated with the clean queue; and

an in-use counter that counts the total capacity of the in-use cache management unit;

the free queue counter, the clean queue, the clean queue counter and the in-use counter are provided in each of the cache partition regions and each constitute the partition management information; and

the free queue, the dirty queue, and the dirty queue counter are used as the common management information.

8. The storage subsystem according to claim 1, wherein each of the cache partition regions can be established for each of the channel adapters.

9. The storage subsystem according to claim 1, wherein one cache partition region among the cache partition regions is established as a common region and a new cache partition region is established by allocating resources belonging to the common region.

10. A method for controlling a storage subsystem that comprises:

a plurality of upper interface control units that each control the exchange of data with a host device;

a plurality of storage device groups that each provide a logical storage region;

a plurality of lower interface control units that each

control the exchange of data with each of the storage device groups; and

a memory section that is used by each of the upper interface control units and each of the lower interface control units,

the method comprising the steps of:

partitioning a cache region provided by the memory section into a plurality of cache partition regions;

partitioning management information for each of the cache partition regions in accordance with the attribute of a cache management unit for managing data in the memory section; and

managing data in each of the cache partition regions on the basis of each of the management information items.